



# THE SSE ELUCIDATOR

*"Elucidate: to give clarity through explanation and analysis."*

## CRM BASIC COURSE

In an effort to reduce accident rates by 20 percent across the Army and in all categories by the end of FY07, the SECARMY and CSA Safety and Occupational Health Objectives for FY07, dated 13 October 2006, requires all Soldiers and Army Civilian employees to complete the Composite Risk Management (CRM) Basic Course. The CRM Basic Course provides an introduction to the CRM process. This online course takes 1 hour to complete and is available through the Combat Readiness University at <https://safetylms.army.mil/>. Training must be completed no later than 30 September 2007. Commanders and supervisors are responsible for documenting completion of training as part of individual training records/plans.

In lieu of completing the CRM Basic Course, Soldiers and Army civilians who have or will complete one or more of the following courses will satisfy the requirement to complete the CRM Basic Course:

- Combat Readiness University Online Courses (available to anyone with AKO access)
- Resident Training (training support packages may be requested from USACRC G-7; local training must be administered by installation/unit safety professionals)
- USACRC Mobile Training Team Courses (conducted FY98 through FY06; no longer available)

Where online access is not available, commanders and supervisors at brigade/activity or above may approve the use of USACRC-approved classroom training support packages; in some cases, exportable CD-ROM versions are available. USACRC points of contact are Mr. Jim Hill at 334-255-0206, Mr. Jimmy Arbuckle at 334-255-00232, or Mr. Philip Mizzell at 334-255-0231. The Army Safety and Occupational Health Objectives for FY07 can be viewed at [https://crc.army.mil/guidance/soh/soh\\_](https://crc.army.mil/guidance/soh/soh_)

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[fy07.pdf](#). A memo detailing acceptable substitutes for completing the CRM Basic Course can be viewed at [https://crc.army.mil/crc/news/DASAF\\_Memorandum.pdf](https://crc.army.mil/crc/news/DASAF_Memorandum.pdf).

## NEW ARMY SAFETY MEMO

Per the new AR 385-10, supervisory and operating personnel who direct or affect the actions of others, as well as Army leaders at all levels, will establish accountability for safety and occupational health through the performance evaluation system and performance counseling sessions.

What does this mean? It means that for all whom this applies, safety shall be included in your annual evaluation process. For example, for Army supervisory officers specific language shall be written into the OER support documents to describe how they support the Army and their Command safety program. Examples include: Conducting monthly safety briefs with all staff; Requiring all staff to utilize TRiPS as required; and Conducting weekly walk throughs of work areas to identify safety concerns. For more information please contact the HQ MRMC Safety Office at 301-619-2004.

## PROTECTING YOURSELF FROM SEASONAL FLU

Influenza (commonly referred to as the “flu”) is upon us. According to the CDC approximately 5% to 20% of the population gets the flu in the United States. In addition, more than 200,000 people are hospitalized from flu complications and about 36,000 people die from the flu. Those most susceptible to serious flu complications such as pneumonia, ear infections, sinus infections, and dehydration include older people, young children, and people with certain health conditions.

Symptoms of the flu include: fever, headache, extreme tiredness, sore throat, muscle aches, dry cough, runny or stuffy nose, and sometimes stomach symptoms such as nausea, vomiting, and diarrhea. Transmission of the flu virus can occur through coughing or sneezing of people with influenza or through contact with something with the flu viruses on it. Once infected, you may be able to infect others 1 day before symptoms appear and up to 5 days after.



The three actions you can take to protect yourself and others from seasonal flu include vaccination, antiviral drugs, and good health habits. However, of the three, the best way to prevent seasonal flu is to get a flu vaccination each year. There are two types of vaccines currently available, the “flu shot” and the nasal-spray flu vaccine. The “flu shot” is an inactivated vaccine, which contains a killed virus, and is given in the arm. The “flu shot” is approved for people older than 6 months. The nasal-spray flu vaccine is made with live, weakened flu viruses that will not cause the flu, and is approved for healthy people 2–49 years of age who are not pregnant. It takes approximately 2 weeks after vaccination for the body to de-

velop antibodies to provide protection against influenza.

Vaccination is best received in October or November, but you can still get vaccinated in December and later. Flu season can begin as early as October and as late as May.

Anyone who wants to reduce their chances of getting the flu can get vaccinated. However, the Advisory Committee on Immunization Practices (ACIP) advises that people who are at high risk of having serious flu complications or people who live with or care for those at high risk should get vaccinated each year. The CDC recommends the following people get vaccinated each year:

People at high risk for complications from the flu, including:

- ◆ Children aged 6 months until their 5th birthday
- ◆ Pregnant women
- ◆ People 50 years of age and older
- ◆ People of any age with certain chronic medical conditions
- ◆ People who live in nursing homes and other long term care facilities

People who live with or care for those at high risk for complications from flu, including:

- ◆ Household contacts of persons at high risk for complications from the flu (see above)
- ◆ Household contacts and out of home caregivers of children less than 6 months of age (these children are too young to be vaccinated)
- ◆ Healthcare workers

The CDC further recommends that the following people should not be vaccinated without first consulting a physician:

- ◆ People with severe allergies to chicken eggs
- ◆ People who have had a severe reaction to an influenza vaccination in the past
- ◆ People who previously developed Guillain-Barré syndrome (GBS) within 6 weeks of getting an

## PROTECTING YOURSELF FROM SEASONAL FLU (cont.)

influenza vaccine

- ◆ People who have a moderate or severe illness with a fever should wait to get vaccinated until their symptoms lessen

Those who receive the “flu shot” can develop the following side effects: soreness, redness, or swelling at the shot location; fever; or aches. The nasal-spray flu vaccine can cause the following side effects in adults: runny nose; headache; sore throat; or coughing. In addition, children may experience wheezing, vomiting, fever, or muscle aches. The CDC states that people who think they have been injured by the flu shot or have experienced a severe allergic reaction to the flu shot, can file a claim for compensation with the National Vaccine Injury Compensation Program (VICP).

The ability of the flu vaccine to protect a person depends on at least two things: 1) the similarity or “match” between the virus strains in the vaccine and those being spread in the community, and 2) the age and health of the person getting the vaccine. Each year, laboratories throughout the world, including those in the U.S., collect flu viruses. Some of these flu viruses are sent to one of four World Health Organization (WHO) reference laboratories, one of which is at the CDC in Atlanta, for detailed testing. These laboratories also test how well antibodies made to the current vaccine react to the circulating virus and new flu viruses. This information, along with information about flu activity, is summarized and presented to an advisory committee of the FDA and at a WHO meeting, resulting in the selection of three viruses (two subtypes of influenza A viruses and one influenza B virus) to go into flu vaccines for the following fall and winter. Usually, one or two of the three virus strains in the vaccine are changed each year. In years when the vaccine strains and the virus strains are well-matched, the vaccine can reduce the chances of getting the flu by 70%–90% in healthy adults.

The vaccine may be somewhat less effective in elderly persons and very young children, but vaccination can still prevent serious complications from the flu. Among elderly persons not living in chronic-care facilities (such as nursing homes) and those persons with long-term (chronic) medical conditions, the flu shot is 30%–70% effective in preventing hospitalization for pneumonia (a lung infection) and influenza. Among elderly nursing home residents, the flu shot can be 50%–60% effective in preventing hospitalization or pneumonia, and 80% effective in preventing death from the flu.

The flu vaccine can prevent 66% or more influenza infections in young children, with even higher estimates for older children, when the vaccine strains are well-matched to the flu viruses causing illness. Vaccinating close contacts of children can also help decrease children’s risk of getting the flu.

In healthy adults less than 65 years of age, the flu vaccine can also prevent lost work days, and keep you from having to see the doctor or using unnecessary antibiotics.

While the flu vaccine is your best protection against flu viruses, the vaccine does not provide protection against non-flu viruses that can cause colds and other respiratory illnesses. It can sometimes be hard to tell the difference between a cold and the flu based on symptoms alone. In addition, the flu vaccine won't protect you from cold or flu viruses that are already in your body when you get a flu vaccine. The flu vaccine takes about two weeks to provide protection from the flu.

For more information visit the CDC website at <http://www.cdc.gov/flu/protect/vaccine/index.htm>.



## ECO-FUNNELS REDUCE EXPOSURE TO HAZARDOUS WASTES



Laboratory hazardous waste containers left open violate EPA, OSHA, and some local Fire Code regulations and can result in fines of up to \$5,000 each. Moreover, an open waste container sitting in a fume hood evaporates at a rate of 30–60 mL per day. Some of the vapors that are evaporating in the hood may return into the building through the fresh air ventilation system.

Safety Ecological Funnel Systems (ECO Funnels) solve the open waste container problem in laboratories by reducing exposure to hazardous waste and preventing toxic chemical evaporation. The ECO Funnel, first developed by a chemist in 1994, is an inexpensive chemical waste containment system that exceeds EPA, OSHA, and Fire Department Hazardous Materials Regulations requiring the prevention of laboratory chemical spills and toxic vapor release. It can be easily incorporated into an existing HPLC waste system. The ECO Funnel is an ideal containment system that eliminates the danger of ignited vapors and spills from open chemical waste containers. In fact, the ECO Funnel prevents emissions of 99.9% of volatile waste solvents, acids, and bases in the laboratory. The ECO Funnel reduces laboratory odors and protects users from odorless inhalants such as dichloromethane. In addition, the ECO Funnel prevents the chance of cross contamination during lab procedures. Overall, the use of the ECO Funnel helps promote a healthier lab and surrounding area.

The funnel is constructed of chemically resistant, high density polyethylene (HDPE) with an 11" long stem that effectively reduces chemical evaporation and environmental pollution. Available in two sizes and with a variety of screw cap adapters, the ECO Funnel can be customized to most standard waste bottles. A built-in air tube vent releases pressure

and allows solvent waste to flow easily and quickly during disposal. ECO Funnels are equipped with a secure "easy use" lid, positive latch, lid gasket, filter, and industrial strength screw cap. They are also available with High Performance Liquid Chromatography (HPLC) waste line adapter fitting(s) in 1/16", 1/8", 1/4", or 3/8" sizes.

This patented equipment is standard in pharmaceutical, biotech, academic, and government facilities worldwide. Small enough to fit under most fume hoods, the ECO Funnel system simplifies hazardous chemical waste disposal. The lid can be easily opened and closed, and the internal gasket and external latch create an air-tight seal to keep vapor from escaping. The ECO Funnel resists most common laboratory chemical solvents such as acetone, hexane, acetonitrile, etc. However, strong acids, bases, and oxidizers should be avoided.

The U.S. Army Center for Environmental Health Research (USACEHR) Laboratory located at Fort Detrick has three HPLC units connected to ECO Funnel systems, each equipped with HPLC waste adapters. The ECO Funnel systems can be equipped with a wide range of Luer barb HPLC adapters or threaded barb HPLC adapters down to 1/16" up to 1/2". The waste USACEHR collects is standard HPLC waste, which is mostly water with varying percentages of methanol, acetonitrile, and small amounts of organic acids. However, after a 5% solution of acetonitrile in water tested positive for flammability, therefore categorizing it as a hazardous waste, USACEHR decided to take the proactive safety precaution and purchased waste collecting containers for all of their systems. While not all of their waste streams contain acetonitrile, the waste collectors, including those equipped with ECO-Funnels, ensure that the USACEHR Lab remains in compliance with EPA, OSHA, and local fire code. USACEHR even took the extra precaution and purchased waste collecting systems to collect dilute acid solutions from their ICP-MS.

For additional product information visit [www.ecofunnels.com](http://www.ecofunnels.com).

## FDA CLEARS FIRST RESPIRATORS FOR PUBLIC HEALTH EMERGENCIES

*Reprinted from the Hazardous Technical Information Services (HTIS) Bulletin: SEP–OCT 2007*

The U.S. Food and Drug Administration (FDA) recently cleared for marketing the first respirators that can help reduce the user's exposure to airborne germs during a public health medical emergency, such as an influenza pandemic. These two filtering facepiece respirators, manufactured by St. Paul, Minn.–based 3M Company (and called the 3M Respirator 8612F and 8670F), will be available to the general public without a prescription.

The devices are also certified as N95 filtering facepiece respirators by the National Institute for Occupational Safety and Health (NIOSH). NIOSH certifies respirators for use in occupational settings in accordance with an appropriate respiratory protection program.

An N95 filtering facepiece respirator is a type of face mask that fits tightly over the nose and mouth. It is made of fibrous material that is designed to filter out at least 95 percent of very small airborne particles. The filter and a proper fit determines the effectiveness of the product.

“While the exact nature and concentration of the biological agent or germ may not be known in a public health medical emergency, we believe that minimizing exposure will help reduce risk,” said Daniel Schultz, M.D., director, FDA's Center for Devices and Radiological Health. “These respirators are only one part of a combination of approaches that can be used to help reduce the spread of infection between individuals during such events.”

Many companies make N95 respirators for workplaces, including health care settings. However, the 3M respirators are the first devices to receive FDA clearance for use by the public during public health medical emergencies to reduce exposure to airborne germs.

Under Occupational Safety and Health Administration and other occupational health regulations, respirators used in the workplace must be individually selected for each worker and tested to ensure a proper fit. This kind of fit testing is not generally

employed outside the workplace now and would probably not be feasible during a public health medical emergency.

The FDA is requiring those who want to market respirators for use during public health medical emergencies to assure that they are certified by NIOSH to provide adequate filtration without hampering people's ability to breathe. In addition, companies must conduct fit assessment testing, conduct biocompatibility testing to reduce the chance for allergic skin reaction, and provide instructions that will enable wearers to achieve a protective fit and use the devices properly.

3M evaluated fit characteristics in healthy adults to determine that a user could achieve a protective fit following the instructions on the label. They measured how many airborne test particles were able to get inside the respirator through small leaks between the edges of the respirator and the wearer's face. While individual results varied, all participants tested achieved some reduction in exposure to airborne test particles.

The 3M respirators are sized for adults and may not form a proper fit on children. Anything that comes between the respirator and the face, such as facial hair, may interfere with its fit. Persons with pre-existing heart or lung disease or other health conditions may have difficulty breathing through a respirator. The devices are for single use. Wearers should not wash, disinfect, reuse or share their respirator with others. The respirators should be discarded after use.

The FDA will soon issue a guidance document outlining its regulatory approach to this new type of device.

Inhaling particles is just one route of exposure to disease-causing organisms. Others include touching contaminated surfaces and coming into close contact with those who have infectious diseases. A total approach to personal protection includes hand hygiene, cough etiquette and other protection practices such as avoiding crowded settings.

For consumer inquiries contact 888-INFO-FDA.

## BACK PAIN: PREVENTING ACHES, PAINS, AND INJURIES

Back pain is one of the most common work-related injuries and is often caused by ordinary work activities such as sitting in an office chair or heavy lifting. Many occupations — such as nursing, construction and factory work — may place significant demands on your back. However, even routine office work can worsen back pain if you fall into risky habits. Whether it's dull and annoying or screaming for attention, back pain can make it hard to concentrate on your job. But you often can avoid back pain and injuries, both at work and at home, by understanding what causes them and focusing on prevention.

### *What causes back injuries?*



The back is a complex system consisting of five distinct spinal regions. The lumbar region, the five vertebrae and six disks in the curved portion of the lower back, is the most often injured. Most back problems are probably the result of a combination of factors. Some factors, such as family history, aren't preventable. Other factors, such as weight, fitness and flexibility, can be controlled by changing your lifestyle. Still other factors are work related, and you may or may not be able to modify these to prevent injury. Lifting, bending, and twisting motions can cause severe injury and pain in the lumbar region and because this is the back area at greatest risk during normal work, it deserves to be the main focus of back conservation and maintenance attention. Four work-related factors are associated with increased risk of back pain and injury:

**Force** – Exerting too much force on your back may cause injury. If your job requires frequent lifting or moving heavy objects, you might face back injury.

**Repetition** – Overly repetitious tasks can lead to muscle fatigue or injury, particularly if they involve stretching to the end of your range of motion or awkward body positioning.

**Posture** – If you spend most of your time in front of a computer, you may experience occasional aches and pains from sitting still for extended periods of

time. On average, your body can tolerate being in one position for about 20 minutes before you feel the need to adjust.

**Stress** – Pressures at work or at home can increase your stress level and lead to muscle tension and tightness, which may in turn lead to back pain.

### *How to avoid injuries*

Your best bet in preventing back pain and injury is to be as fit as you can be and take steps to make your work and your working environment as safe as possible. This requires a combination of lumbar maintenance and lumbar conservation.

**Lumber Maintenance** – Even if you move around a lot on your job or your job requires physical exertion, you still need to exercise. Regular exercise is your best bet in maintaining a healthy back. First of all, you'll keep your weight in check, and carrying around a healthy weight for your body's frame minimizes stress on your back. Exercise your back regularly; back conditioning starts with body conditioning. Your torso muscles are all interconnected and you must strengthen all of them to help strengthen your back. These exercises are called "core strengthening" because they work both your abdominal and back muscles. Concentrate on the exercises that strengthen each side equally, for example, low-impact aerobics, high-speed walking, rowing, and swimming. Machines that allow you to simulate rowing, stair-climbing or cross-country skiing at home are useful for back conditioning. Exercises that strengthen the lifting power of the legs can help the back by allowing the legs to do more of the heavy lifting.



**Lumbar Conservation** – There's a right way and a wrong way to lift and carry a load. However, minimizing the need to move materials manually is the best prevention. Proper planning and good design can eliminate much lifting. Reorgan-

## BACK PAIN: PREVENTING ACHES, PAINS, AND INJURIES (cont.)

ize your work to eliminate high-risk, repetitive movements. If you're carrying something heavy, know exactly where you intend to put it and whether that space is free from clutter. Avoid unnecessary bending, twisting, and reaching. The use of mechanical lifting aids can be a big back saver. However, if you must lift, remember that your body is not a crane; your back is not designed to "boom up," boom down," or "boom to the side" with ease. Therefore, when lifting and carrying a load:

- ◆ Examine the load for grease, oil, sharp edges and other hazards
- ◆ Know your limit and halve it; estimate the weight and divide the load or get help if the weight is more than you can comfortably handle
- ◆ Plan your path and make sure that it is free of obstructions
- ◆ Consider how you will set down the load before you lift it
- ◆ Stand close to the load with your feet spread apart (at about shoulder width apart, with one foot in front of the other for balance)
- ◆ Do not twist your body to get into position
- ◆ Squat down and tuck in your chin, while keeping your back as straight as possible
- ◆ Grasp the load firmly
- ◆ Lift with your legs by slowly straightening them
- ◆ Return your back to a vertical position
- ◆ Turn only with your feet; do not twist your torso while lifting or carrying a load
- ◆ If possible, avoid lifting a load from below your knee level or from above your shoulder level; both maneuvers, unless done carefully, create great stress on disks in the lumbar region
- ◆ Carry the load close to your body. The stress on your lumbar region multiples quickly as the center of gravity moves out from the shoulders

Lumbar conservation can also be achieved by adjusting your posture. Poor posture stresses your back. When you slouch or stand with a swayback, you exaggerate your back's natural curves. Such posture can lead to muscle fatigue and injury. In contrast, good posture relaxes your muscles and

requires minimal effort to balance your body.

If you stand for long periods, rest one foot on a stool or small box from time to time. While you stand, hold reading material at eye level. Don't bend forward to do desk work or handwork. To promote comfort and good posture while sitting, choose a chair that supports your back. Adjust the chair so that your feet stay flat on the floor. If the chair doesn't support your lumbar region, place a rolled towel or small pillow behind your lower back.

Adjusting your work space is also helpful in lumbar conservation. Look at the setup of your office or work area. Think about how you could modify repetitive job tasks to reduce physical demands. Remember that you're trying



to decrease force and repetition and maintain healthy, safe postures. If you work at a computer, make sure that your monitor and chair are positioned properly. Adjust the height of your computer screen and chair so that your head and neck is upright, not tilted and your feet are flat on the floor. If you're on the phone most of the day, try a headset. Avoid cradling the phone between your shoulder and ear to free up your hands for yet another task.

If you must sit or stand for a prolonged period, change your position often. Take a 30-second timeout every 15 minutes or so to stretch, move, or relax. Try standing up when you answer the phone, to stretch and change positions.

Finally, being under stress causes your muscles to tense, and this can make you more prone to injury. In addition, the more stress you feel, the lower your tolerance for pain. Try to minimize your sources of stress both on the job and at home. Develop coping mechanisms for times when you feel especially stressed. For instance, perform deep-breathing exercises, take a walk around the block, or talk about your frustrations with a trusted friend.

**THE ELUCIDATOR**

Office of Surety, Safety and Environment (SSE)  
U.S. Army Medical Research Materiel Command  
MCMR-ZC-SSE  
504 Scott Street  
Fort Detrick, MD 21702-5012

**SSE Staff Contacts:**

Cliff Wendel, Chief SSE  
**Phone:** 301-619-8313  
**E-Mail:** cliff.wendel@amedd.army.mil

Safety Officer, Vacant  
**Phone:** 301-619-2004  
**E-Mail:** jolane.souris@amedd.army.mil

JoLane Souris, Environmental Officer  
**Phone:** 301-619-2004  
**E-Mail:** jolane.souris@amedd.army.mil

Cavelle Williams, Safety Protocol Review  
**Phone:** 301-619-6035  
**E-Mail:** cavelle.williams@amedd.army.mil

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<http://mrmc-www.army.mil>

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***Reminder***

*For all accidents, no matter how minor,  
specific forms documenting the incident must be submitted to your Safety Office.*

*Military: DA Form 285-AB-4*

*Civilian: DOL Claims Forms CA-1 or CA-2*

*All employees requiring medical attention must visit your local Occupation Health Clinic as soon as possible post mishap.*